



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,938	06/20/2003	Atsushi Magara	9281/4578 N US02051	9448

7590 03/20/2009
Atsushi Magara
ALPS Electric Co LTD
1-7 Yukigaya
Otsuka-cho, Ota-ku
Niigata-ken, TOKYO
JAPAN

EXAMINER

GARCIA, CARLOS E

ART UNIT	PAPER NUMBER
----------	--------------

2627

MAIL DATE	DELIVERY MODE
-----------	---------------

03/20/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/600,938	Applicant(s) MAGARA, ATSUSHI	
	Examiner CARLOS E. GARCIA	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/11/2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4 and 5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4 and 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

2. Claim 1 is objected to because of the following informalities:

On line 6, the term "rotating cylinders" should be -- rotating cylinder --.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2 and 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okumura et al. (JP 04-353613; hereinafter Okumura) in view of Applicant admitted prior art (hereinafter AAPA).

Re claim 1: Okumura discloses a rotary double azimuth magnetic head (as shown in Fig.1(a)-1(b)) comprising: at least one pair of magnetic heads (1 and 2) having gaps (defined by 4), whose azimuth angles are different from each other (as shown in Fig.1; defined by $+\theta$ and $-\theta$) and a rotating cylinder (head base 3 is connected to a cylindrical

Art Unit: 2627

rotary drum for rotation purposes) comprising boards (head base 3) for having the corresponding magnetic heads fixed thereto (as shown in Fig.1-5), wherein the magnetic heads are arranged so as to have the same height (defined as H) from the corresponding gaps to board surfaces of the corresponding boards and such that the magnetic heads (the pair of magnetic heads are symmetric to a line between the pair of heads, centered on a rotating axis of the cylinder; see Figure in Arguments section for further clarification) fixed to the respective boards attached to the rotating cylinder are symmetric (see Fig.1-5; abs; para.0014, 0025, 0037) with respect to the rotating axis of the rotating cylinder, wherein each of the pair of magnetic heads is formed by an I-type core and a C-type core with a winding slot (as shown in Fig.1-5), which abut against each other having the corresponding gap interposed there between, and the gap lies closer to one side with respect to the width direction of the corresponding I-type and C-type cores, and wherein, in the rotating direction of the rotating cylinder, the C-type core of one of the magnetic heads moves ahead of the I-type core of the same and the I-type core of the other magnetic head moves ahead of the C-type core of the same (see Fig.1).

However, Okumura fails to disclose or fairly suggest that one magnetic head has an azimuth angle equal to or greater than +10 degrees with respect to the normal of the board surface of the corresponding board and the other magnetic head has an azimuth angle equal to or less than -10 degrees with respect to the normal of the board surface of the corresponding board.

Art Unit: 2627

AAPA specifically describes the standard values for azimuth angles as ranging from ± 10 degrees to ± 30 degrees for a pair of magnetic heads used in digital VHS recording systems (see page 8, lines 20-28 of the original specification).

It would have been an obvious matter of design choice to use the standardized azimuth values of ± 300 degrees since the applicant has not disclosed that using this standard azimuth value solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with lower or higher azimuth angles or newly standardized values.

Re claim 2: However, Okumura fails to disclose or fairly suggest that each of the magnetic heads has one and another track grooves, having the corresponding gap interposed there between and having different depths from each other, for regulating a track width of the gap.

Okumura discusses varying the depths of the gaps to change the track width of the gaps such as used for normal recording and long-time recording modes (para.0005).

A person of ordinary skill in the art would have had good reason to pursue the known options of regulating the track width of the gap in order to vary recording modes. It would require no more than "ordinary skill and common sense," to varying the depths of the gaps to change the track width of the heads as desired.

Re claim 4: Okumura further discloses the tape-medium recording and playback apparatus comprising a tape-loading path (rotary head structures and magnetic recording

Art Unit: 2627

tape mediums include tape loading paths to allow the magnetic tape to travel) formed by a tape medium which is led out from a tape reel (tape reels are used to guide the tape) and is wound around the rotary head according to claim 1.

Re claim 5: Okumura further discloses wherein the tape-loading path comprises the rotary head to be driven to rotate; two guide posts respectively disposed upstream and downstream of the rotary head (typically two guide posts or shafts are placed in upstream and downstream positions for guiding the tape medium), for guiding the tape medium led out from the tape reel in order to wind the tape medium around the rotary head; and a capstan disposed downstream of the rotary head, for causing the tape medium to run (capstans and rollers are used for guiding a tape medium around a tape loading path).

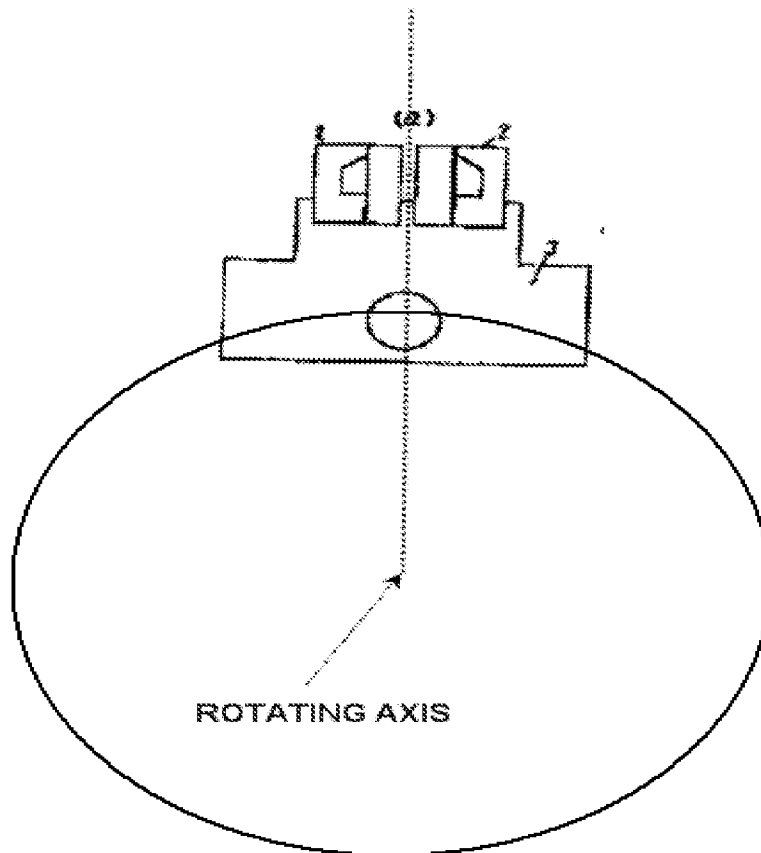
Response to Arguments

5. Applicant's arguments filed 12/11/2008 have been fully considered but they are not persuasive.

In re claim 1: The Examiner interprets the amended limitation of "such that the magnetic heads fixed to the respective boards attached to the rotating cylinder are symmetric with respect to the rotating axis of the rotating cylinder" as requiring at least the two magnetic heads fixed to a board, to be symmetric with each other, relative to a line passing through the rotating axis of the cylinder. Since the claim does not indicate that each magnetic head is placed separate from each other at opposite ends of the cylinder or that an angle of 180 degrees separates each head, it appears that such magnetic heads of Okumura

Art Unit: 2627

would be symmetric with each if a line (such as illustrate below), is drawn from a center of the board member (base member) which passes through the rotating axis, since the pair of heads is attached to the board member which is fixed to the cylinder.



Additionally, the limitation regarding azimuth angle ranging within the ± 10 degrees, a reference such as Higurashi et al. (US 6,084,737) specifically discloses the standard use of azimuth angles ranging on plus or minus 10 degrees for 8-mm video record/playback formats (see col.2, lines 36-38). It appears to be obvious to one of ordinary skill in the art to adopt a range of azimuth angles based on standard values as stated by the AAPA.

Conclusion

6. The prior art made of record in PTO-892 Form and not relied upon is considered pertinent to applicant's disclosure.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos E. Garcia whose telephone number is 571-270-1354. The examiner can normally be reached on 8:30 am to 5:00 pm, Monday thru Thursday and 8:30 to 4:00 pm, Fridays. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on 571-272-4483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

Art Unit: 2627

applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Carlos E Garcia/
Examiner, Art Unit 2627
3/20/2009

/Craig A. Renner/
Primary Examiner, Art Unit 2627